

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Town of Fairhaven
Arsene Street, Fairhaven, MA 02719

is authorized to discharge from the facility located at

Fairhaven Wastewater Treatment Plant
Arsene Street
Fairhaven, MA 02719

to receiving water named

Acushnet River (New Bedford Inner Harbor; Buzzards Bay Watershed; State Code 95)
in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective **60 days after signature**.

This permit and the authorization to discharge expire **at midnight, two (2) years from the effective date**.

This permit supersedes the permit issued on September 28, 1989 and modified on March 30, 1990.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, Attachment A, Marine Chronic Toxicity Test; Attachment B, Sludge Guidance; and 35 pages in Part II including General Conditions and Definitions.

Signed this 3rd day of April, 2003

/SIGNATURE ON FILE/

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Department of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number 001. Such discharge shall be limited and monitored by the permittee as specified below.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	mgd	5.0 ²	----	Report	Continuous	Recorder
BOD ₅ ⁴	mg/l	30	45	Report	1/Week	24-Hour Composite ⁵
	lbs/day	1252	1878	-----		
TSS ^{4,12}	mg/l	30	45	Report	1/Week	24-Hour Composite ⁵
	lbs/day	1252	1878	-----		
Settleable Solids ¹	ml/l	0.1	----	0.3	1/Day	24-Hour Composite ⁵
pH ¹²		(See Condition I.A.1.b. on Page 6)			1/Day	Grab
Fecal Coliform Bacteria ^{1,6,12}	cfu/100 ml	88	----	260	1/Week	Grab
Total Residual Chlorine ^{1,7}	ug/l	61.5	----	107	3/Day	Grab
Total Nitrogen (Total of TKN + Nitrite + Nitrate)	mg/l	Report	----	Report	1/Week ⁴	24-Hour Composite ⁵
	lbs/day	Report	----	Report		
LC ₅₀ ^{8,9,11}	%	----	----	100	2/year	24-Hour Composite ⁵
Chronic NOEC ^{8,10,11}	%	----	----	>12.2	2/year	24-Hour Composite ⁵

Sampling location: Effluent sampling for total residual chlorine and fecal coliform shall be performed at the man-hole location near the end of the outfall pipe. All other effluent sampling shall be conducted at the distribution box after chlorination. Upon completion of the ultra-violet disinfection system, all effluent sampling shall be conducted at the outlet of the ultra-violet disinfection system.

Footnotes:

1. Required for State Certification.
2. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average limit, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow for the previous 12 months.
3. All required effluent samples shall be collected at the point specified in permit. Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. All samples shall be 24 hour composites unless specified as a grab sample in 40 CFR §136.
4. Sampling required for influent and effluent.
5. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken over a 24 hour period.
6. Fecal coliform monitoring will be conducted year round. This is also a State certification requirement. This monitoring shall be conducted concurrently with the TRC sampling described below. The monthly average limit is expressed as a geometric mean.
7. The minimum level (ML) for total residual chlorine is defined as 50 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G, or United States Environmental Protection Agency Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. Sample results of 50 ug/l or less shall be reported as zero on the discharge monitoring report.

The permittee is required to complete construction and begin operation of an ultraviolet ray (UV) disinfection system by April 1, 2004. The new limits for TRC will not be effective until April 1, 2004. During the interim period (from the effective date of the permit until April 1, 2004) the previous permit maximum daily limit of 0.29 mg/l will be in effect. However, between October 15, 2003 and April 1, 2004, during the construction of the UV disinfection system, the permittee will not be required to disinfect its discharge. The permittee shall notify the Massachusetts Division of Marine Fisheries, EPA, and MADEP at least two weeks prior to terminating chlorination, and upon completion of the UV disinfection system. Upon termination of chlorination, the monitoring requirements for TRC shall end, if not used.

8. The permittee shall conduct chronic (and modified acute) toxicity tests two times per year. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the Inland silverside and Sea urchin. Toxicity test samples shall be collected during the second week of the months of March, and September. The test results shall be submitted by the last day of the month following the completion of the test. The results are due April 30th and October 31st respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second week in	Submit Results By:	Test Species	Acute Limit LC_{50}	Chronic Limit C-NOEC
March and September	April 30 th and October 31 st	<u>Inland silverside</u> and <u>Sea urchin</u> See Attachment A	\$ 100%	\$ 12.2%

After submitting four consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the frequency of required WET testing. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

9. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
10. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "12.2% or greater" limit is defined as a sample which is composed of 12.2% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit derived as a percentage of the inverse of the dilution factor of 8.2.
11. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In

lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA’s Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this “Guidance Document” will be transmitted to the permittee as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**

12. During the use and emptying of the flow equalization units, the following samples shall be collected after the flow equalization pumps :

TSS and pH — TSS shall be a manual composite on the basis of a minimum of 3 grab samples during a regular working day; pH shall be a grab sample.

During the use and emptying of the flow equalization units [when using either chlorination and/or ultra violet ray disinfection] , a representative fecal coliform sample of the effluent shall be collected at the distribution box after disinfection.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time, unless these values are exceeded as a result of an approved treatment process.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
- f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

- g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
- h. The results of sampling for any parameter above its required frequency must also be reported.

2. All POTWs must provide adequate notice to the Director of the following:

- a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For purposes of this paragraph, adequate notice shall include information on:
 - (1) the quantity and quality of effluent introduced into the POTW; and
 - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

- a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
- b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to

Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. PRETREATMENT

1. Limitations for Industrial Users:

a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

2. Industrial Pretreatment Program

Within 120 days of the effective date of the permit, the permittee shall submit the results of an industrial user survey including identification of industrial users and the character and volume of pollutants contributed to the Publicly Owned Treatment Works (POTW) by the industrial users. The industrial user survey shall as a minimum include the following :

- (i) Industries discharging wastes which are or may be in the future subject to local limitations or the national prohibited discharge standards found in 40 CFR Part 403.5; and
- (ii) Industries discharging wastewater from processes in one or more primary industry categories (See Appendix A to 40 CFR Part 122 or Appendix C of 40 CFR Part 403).

C. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfalls listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance,

repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Preventative Maintenance Program

The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:

The permittee shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. The plan shall be submitted to EPA and MA DEP within six months of the effective date of this permit (see page 1 of this permit for the effective date) and shall describe the permittee's program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MA DEP annually, by the anniversary date of the effective date of this permit. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and

corrective actions taken during the previous year.

- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

4. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

5. Nitrogen Removal Optimization Study

The permittee shall complete a Nitrogen Removal Optimization Study within 18 months of the effective date of the permit. A scope of work for completing the study shall be submitted to EPA and MADEP within 3 months of the effective date of the permit. The study shall assess current and future wastewater flows and nitrogen loadings, identify alternatives for controlling influent average and/or peak nitrogen loadings, evaluate the nitrogen removal performance of the treatment facility, and determine operational criteria for achieving the maximum practicable removal of nitrogen at the existing treatment facility. Within one month, following EPA and DEP approval of the study, the recommendations of the study shall be implemented, and the treatment plant operational processes operated to optimize removal of nitrogen, consistent with the recommendations of the study.

E. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.

3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.
 - a. Land application - the use of sewage sludge to condition or fertilize the soil
 - b. Surface disposal - the placement of sewage sludge in a sludge only landfill
 - c. Sewage sludge incineration in a sludge only incinerator
4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.
5. The permittee shall use and comply with the attached (see Attachment B) compliance guidance document to determine appropriate conditions. Appropriate conditions contain the following elements.
 - General requirements
 - Pollutant limitations
 - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
8. The permittee shall submit an annual report containing the information specified in the guidance **by February 19**. Reports shall be submitted to the address contained in the

reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report on February 19 containing the following information:

- C Name and address of contractor responsible for sludge disposal
- C Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

F. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.